

Characteristics of people's binge-watching behavior in the "entering into early adulthood" period of life

BACKGROUND

The study focuses on psychological conditions of the phenomenon of binge-watching. The aim of the article was to characterize the frequency and motivation to perform binge-watching in a group of young adults. Another goal of the research was to present the results of preliminary adaptation works on two scales that were previously non-existent in Polish literature, which may be used to study binge-watching.

PARTICIPANTS AND PROCEDURE

The study involved 854 female and 150 male participants aged 19-26 years. The participants of the research were students of Polish universities. The following research methods were applied in the study: Polish adaptation of the Viewing Motivation Scale by Alan M. Rubin and the author's tool – Questionnaire of Excessive Binge-Watching Behaviors by Jolanta Starosta.

RESULTS

The conducted analysis revealed a significant association between high frequency of binge-watching and escape motivation ($p = .55$, $p < .05$) and motivation to deal with

loneliness ($p = .42$, $p < .05$). Furthermore, these two motivations correlate significantly with such predictors of risk for behavioral addiction as Loss of control and neglect of duties and Emotional reactions. Research has shown that the Polish adaptation of the Viewing Motivation Scale and the Questionnaire of Excessive Binge-Watching Behaviors are tools that meet psychometric standards.

CONCLUSIONS

The study shows that participants have various motivations to binge-watch series. The individuals who binge-watch with the highest frequency had a tendency to have escape motivation and motivation to deal with loneliness. There are some relations with various motivation and frequency of binge-watching with risk factors for behavioral addiction. The methods presented in the study – the Viewing Motivation Scale and the Questionnaire of Excessive Binge-Watching Behaviors – may be useful in learning about the phenomenon of binge-watching.

KEY WORDS

motivation; young adults; behavioral addiction; binge-watching, risk of addiction

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BACKGROUND

The issue of motivation in the development of binge-watching behavior in the population of young adults – so far – is a very poorly studied research area in psychological literature. Despite the increasing frequency of the commonly observed phenomenon which is compulsive watching of a large amount of episodes at the same time, there have not been many studies of psychological conditions of binge-watching in the adult population, both abroad and in Poland. The few studies' results quoted in the sources of literature focus mainly on the description of the sociological and cultural aspects of binge-watching (Winland, 2015). However, searching for psychosocial factors supporting the motivation for binge-watching behavior among people in early adulthood is a niche topic in psychological research. On the other hand, in recent years, as a result of the development of streaming platforms, such as Netflix, Hulu, Amazon Prime Video, HBO GO or Polish VOD services, and because of the emergence of an increasing number of series on a wide range of topics, more and more young people who enter the life period called early adulthood – so-called generations of millennials who were born between 1980 and 2000 – display binge-watching behavior in an uncontrolled, compulsive way (MarketCast, 2013; Winland, 2015). Entering into the period of early adulthood is the time when young people are still building their own identity. It is a time of life in which the autonomy of a young person, shaped under the influence of psychological factors (personality) and socio-cultural autonomy, may result in the development of risky behaviors (Arnett, 2000; Trempała, 2011). Excessive binge-watching can be an example of such risky behaviors. The need to compulsively discharge emotional tension and the need to obtain pleasure is characteristic in the course of young people's binge-watching behaviors. A similar mechanism can be observed in the case of Internet addiction or computer game addiction (Guerreschi, 2005). The definition of binge-watching is not clear-cut for many researchers. There is no consensus whether the definition of binge-watching behavior should be limited to the description of watching individual series of serials, or it may also refer to the phenomenon of mass viewing of various series. Another issue of the definition of binge-watching is the amount of time spent watching series. Some researchers believe that this phenomenon can be mentioned whenever a person watches 4-5 episodes of a series, each lasting an hour, or 6-7 episodes of a series, each lasting half an hour (Moore, 2015). In turn, Jenner (2014) states that binge-watching is watching the series for at least three hours at one sitting. From a study conducted by Netflix (2013), 73% of people who identify themselves as binge-watchers define this phenome-

non as watching from 2-6 episodes in a row. Conlin (2015) believes that binge-watching behaviors are not only those involving watching a few episodes at once, but also consuming serials in a short time. One of the reasons for the difficulty in defining the specific number of episodes that should be viewed to meet the binge-watching criteria are different patterns of behavior of people watching the series (Trouleau, 2016). Trouleau (2016) distinguished in his research – based on the number of episodes watched – the following three types of binge-watching behavior. The first, referred to as “hyper-binge”, is associated with watching an extreme number of episodes per day – over 7 episodes a day. A survey by Trouleau (2016) shows that it is extreme and rare, as it occurs only in 2.1% of binge-watching sessions. The second type of behavior is referred to as “binge” and is associated with viewing about 3-7 episodes and constitutes about 22.2% of all binge-watching behaviors. On the other hand, the third type – which is called “regular” – is watching about 1-2 episodes and is considered as ordinary watching of series. Research also showed that “hyper-binge” and “binge” behaviors occur more often during the weekend and that participants usually watch series not on mobile devices, but on television (Trouleau, 2016). The available literary sources and the research cited therein on the determinants of binge-watching behavior indicate psychosocial theories that emphasize the importance of gratifying needs as a source of motivation for the binge-watching behavior (Pittman & Sheehan, 2015). The theory of uses and gratification assumes that the audience has its own goals and needs and looks for ways to satisfy them through the use of media such as television and the Internet (Rubin, 2008; Pittman & Sheehan, 2015). The way in which these platforms are used by viewers indicates that they are looking for gratification of five needs, which are: information or education need, identification with characters, need for entertainment, strengthening social contacts and escape from the stress of everyday life. A different classification, proposed by Greenberg, points to the existence of seven factors stimulating the motivation of the person to watch TV. These are: habit, relaxation, company, way of spending time, learning, pleasure, escape (Greenberg, 1974 for: Rubin, 1983). Rubin distinguished the following five motivations for watching television: habit/way of spending time, information, entertainment, company and escape. Research conducted on college students indicate that escape from reality, easy accessibility to TV, social interactions and advertising are the main motivations for binge-watching (Panda & Pandey, 2017). However, another study showed that enjoyment, efficiency and fandom motivations are associated with binge-watching (Shim & Kim, 2018). Binge-watching is a highly absorbing phenomenon, which requires a lot of time

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to be devoted to it. Research shows that people can reduce their social activities in favor of experiencing contacts with the fictional protagonists of the series (Pierce-Grove, 2017; Feeney, 2014). However, it is noted that watching the series together with a partner positively affects the relationship, because it is still an intimate activity (Pierce-Grove, 2017). The author also emphasizes that not only social life dies during binge-watching sessions, but also the person's responsibilities and other activities of the person. Binge-watching is associated with procrastination, which is quite common among millennials. Research conducted by Yoon Yi Sung, Eun Yeon Kang and Wei-Na Lee (2015) – scientists from the University of Texas – showed that people with less self-control will decide more often to watch the next episode of the series, despite their work (Manley, 2016). The articles mention guilt, mortification or embarrassment with their own behavior related to the allocation of a large amount of time to watching series (Pierce-Grove, 2017; Pittman & Sheehan, 2015; Walton-Pattison, Dombrowski, & Presseau, 2018). The literature notes that people feel guilty or think they spent time unproductively only when binge-watching sessions have happened unintentionally. On the other hand, the respondents did not feel guilty if their actions were planned and the person deliberately spent time watching the series or did it with other people (Feeney, 2014; Wagner, 2016). Research carried out by Presseau (2016) also indicates that practicing binge-watching may involve anticipation of guilt. Presseau (2016) indicates that people who compulsively watch TV series can even give up on other life goals to continue binge-watching sessions. With the subordination of one's life to compulsive behaviors – with the existing internal coercion of performing activities without the possibility of postponing and taking conscious control over them – binge-watching behavior can be considered as behavior bearing the risk of behavioral addiction. We can assume that excessive binge-watching has some similarities to addiction to watching television, such as compulsion to watch the series without the possibility of postponing this activity, ending with the failure of attempts to limit watching TV series, occurrence of withdrawal symptoms (e.g. anxiety, irritability, depressiveness) and neglect of family and friends (Kubey & Csikszentmihalyi, 2002). Furthermore, after an unintentional binge-watching session the symptoms of addiction were more common (Riddle, Peebles, Davis, Xu, & Schroeder, 2017). We can assume that the individuals who "hyper-binge" are in the high risk group of behavioral addiction (Trouleau, 2016). So far, in the sources of literature, the binge-watching behavior has got just a few tools to measure its indicators and conduct research aimed at learning the motivation of binge-watching behavior. Considering the importance of increasingly de-

veloping behavioral addictions in the early adulthood population, including binge-watching behaviors, the authors of this article have attempted to pre-adapt the Polish Viewing Motivation Scale to watch the series of Alan M. Rubin (1983). Apart from the above scale, we do not yet have satisfactory psychometric properties of binge-watching behavior measurement tools in Poland. Additionally, in our own research, to deepen the measurement of features that indicate addictive traits in binge-watching behaviors, we developed the Questionnaire of Excessive Binge-Watching Behaviors.

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RESEARCH OBJECTIVES AND QUESTIONS

The main goal of this article is to characterize selected factors of motivation to perform binge watching behavior in a group of people in early adulthood and to look for a connection between the types of studied motivation and the frequency of binge-watching behavior. Moreover, the following question was asked: how many of the examined group of young people revealed a high frequency of binge-watching behaviors, which can be considered as one of the risk factors for behavioral addiction in young adults. Another goal of the article is to present the results of preliminary adaptation works on two scales that were previously non-existent in Polish literature, which can be used to measure the motivation for binge-watching: Alan M. Rubin's Viewing Motivation Scale (1983) and the Questionnaire of Excessive Binge-Watching Behaviors (Starosta, 2018). The main research variable is binge-watching, which is defined as a syndrome of behaviors revealed by the subject, which is indicated by watching episodes of series or selected entertainment programs at a single sitting, in high frequency, using memory carriers or by being online (Winland, 2015). In the self-study model by defining the variable binge-watching behavior and the frequency of its disclosure in the studied population, the following categories were distinguished: people watching 1-2 episodes per day (category 1: people watching series in an ordinary mode). Category 2 – intensification of binge-watching behavior (people during a standard session watching from 2 to 5 episodes a day). Category 3 – high intensity of binge-watching behavior (people watching from 2 to 14 episodes per day). The level of binge-watching behavior in the studied population of people in early adulthood was verified based on the results of the Viewing Motivation Scale and the Questionnaire of Excessive Binge-Watching Behaviors. The level of risk of behavioral addiction was determined by results of the Questionnaire of Excessive Binge-Watching Behaviors. High scores: 120-180 points in the excessive binge-watching

behavior questionnaire indicated high (excessive) binge-watching behavior (due to frequency – defined as a risk factor for behavioral dependence). Average scores: 90-120 points (average results). Low scores: 30-90 low intensity of binge-watching behaviors – no signs of behavioral dependence.

Research questions:

1. What psychometric properties does the Viewing Motivation Scale have?
2. What psychometric characteristics does the Questionnaire of Excessive Binge-Watching Behaviors have?
3. What types of motivation for binge-watching behavior can be identified in the group of young adults under study?
4. What is the level of intensity of binge-watching behavior in the studied population of women and men during early adulthood?
5. Is there and – if there is – what is the strength of the relationship between the motivating factors of the surveyed people to watch the series and the frequency of binge-watching behavior in the surveyed population of people entering adulthood?

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

Purposive sampling was used in this study. This selection is based on our knowledge of the population and on the purpose of the study. 1257 people took part in the study. The main criteria for inclusion in the group of respondents were: women and men in early adulthood, that is 19-27 years of age, who stated that they watch various series and that they binge-watch series. The choice of people in this age group is justified by the popularity of the mentioned behavior among young people, especially from the generation of millennials (MarketCast, 2013). Due to the lack of correct completion of the questionnaires to meet the criterion – displaying binge-watching behavior – 253 people were excluded from the study and the results of the remaining 1004 people were included in the data analysis. The subjects were students of Polish academies – universities and technical universities, studying both in science and humanities. The research group consisted of 854 (85%) women and 150 men (15%) aged 19-26. The average age of students was 22 years. The survey was conducted in 2018, via the Internet. The data were collected using forms on the Google platform. The respondents were reached by posting a link with a research sheet on Facebook groups of Polish universities, technical universities and of specific fields of study, as well as on specialist and fan groups gathering people interested in series and pop culture. The respondents agreed to participate in the research.

PROCEDURE

To measure the binge-watching behavior frequency, a five-question survey was used to determine the daily number of episodes viewed and the number of binge-watching sessions during the month. The same goes for preferred series of serials and devices by which individuals watch TV series. To measure the level of motivational factors to watch the series and the characteristics of behavioral addiction, the Viewing Motivation Scale, by Alan M. Rubin, was used in the Polish adaptation by Starosta (2018). To measure the level of the intensity of behavioral dependence traits, the Questionnaire of Excessive Binge-Watching Behaviors was applied (Starosta, 2018). The Viewing Motivation Scale (hereinafter conventionally referred to as VMS) was developed by Alan M. Rubin in 1981 based on research conducted in 1978 on a population of 464 people aged 18 to 89 ($M = 33.3$). The original Rubin scale consisted of 27 questions to which the respondent had to answer by marking one of the 5 responses on the Likert scale where 1 means a *completely untrue answer*, 2 – *a bit true*, 3 – *very likely*, 4 – *true*, and 5 – *definitely true*. In the original version of the Rubin scale, the following 9 scales were distinguished: relaxation, company, habit, way of spending time, entertainment, social motivation, information motivation, excitement and escape. The Polish adaptation of the Viewing Motivation Scale (VMS) was carried out after the authors obtained the consent of Alan M. Rubin to conduct research in Poland. In order to conduct the research procedure, the VMS questionnaire was translated from English into Polish and then translated back. In the first phase of the work, independent translators translated the entire tool into Polish – the name of the scale, questions, and scale names. Then a reverse translation was performed to check the accuracy of the translation. The translations proved to be similar. The first preliminary pilot studies were conducted on a group of 41 people – students of the University of Silesia in Katowice. After the factor analysis due to the fact that one item – *Because it's a habit, just something I do* – did not belong to any factor the authors decided to reject it. For proper research and initial adaptation of the VMS, it was decided to use the 26-item version of the tool. The obtained results of the study using the VMS questionnaire were subjected to statistical analysis including factor analysis and reliability analysis. The detailed results of this analysis can be found in the next part of this article. The second scale used in our study to measure the frequency of binge-watching behavior was the Polish Questionnaire of Excessive Binge-Watching Behaviors created by Starosta (2018). This questionnaire is a authorial tool created on the basis of the Internet addiction survey method developed by Kimberly

Young (1998) and its Polish adaptation of the PUI (Problematic Use of Internet) test by Ryszard Poprawa (2012). This questionnaire is used to examine the risk factors of problematic binge-watching behavior, which may become a behavioral addiction, of which indicators are: excessive preoccupation, loss of control over behaviors which can result in adverse health and social consequences for the individual. Due to the similarity, the questionnaire consists of 30 questions to which the respondent had to respond, choosing one of the answers on a 6-point scale (1 – *never*, 2 – *sporadically*, 3 – *rarely*, 4 – *sometimes*, 5 – *often*, 6 – *always*). The obtained results of the study were subject to a statistical analysis including factor analysis and reliability analysis of the Questionnaire of Excessive Binge-Watching Behaviors. The detailed results of this analysis can be found in the next part of this article.

RESULTS

The directions of statistical analysis of the obtained test results were as follows. First, statistical analyses aimed at creating the Polish adaptation of the Viewing Motivation Scale by Alan M. Rubin and the study of the Questionnaire of Excessive Binge-Watching Behaviors were carried out (including factor analyses). Next, in order to check the frequency of occurrence (level of intensity of indicators) of the binge-watching behavior variable, the overall result was measured by the Questionnaire of Excessive Binge-Watching Behaviors ($M = 78.93$, $SD = 22.62$). The results indicated that 70% of the study group were characterized by low results, and 26% of the study group obtained average scores, which indicates a moderate risk of behavioral addiction. Only 4% of respondents obtained high results in the frequency of occurrence of binge-watching behaviors, suggesting an increased risk of binge-watching addiction. Then, the average number of episodes watched by the subjects during the day was examined. Half of respondents limit themselves to watching only 1-2 episodes a day, which indicates that it is a type of regular watching of the series. As many as 43% of respondents watch 2-5 episodes a day, which is equivalent to binge-watching. However, only 7% of respondents watch 2-14 episodes in one sitting, which means a tendency to problematic binge-watching, which may carry the risk of developing behavioral addiction traits. As many as 37% of respondents answered that they binge-watch once a month, and 24% of them do it twice a month. However, 19% binge-watch on average once a week, while 17% of respondents do it at least 2-4 times a week. However, 3% admit that they do it every day. Subsequently, the need for a factor analysis to identify factors (subscales) of the prepared initial Polish adaptation of

the Alan M. Rubin series of the Viewing Motivation Scale and the Binge-Watching Survey Questionnaire (Starosta, 2018) was verified.

VIEWING MOTIVATION SCALE

The collected research material has been subjected to exploratory factor analysis. The obtained measure of compliance of the selection of the KMO sample (for the SMOS questionnaire) was 0.87, while the Bartlett's sphericity test result was as follows: $\chi^2 = 10527.52$, $df = 325$, $p < .001$. The obtained results of both indicators given above unambiguously indicate the justification for subjecting the collected material to factor analysis. In the following stages, a scree plot is presented for the variables included in the Motivation Scale for viewing serials as well as a summary of the value of explained variance by identified constituent factors.

After the analysis of the chart and the list of the explained variance in the scope of the identified factors, the decision was made to take into account the 6-factor structure of the tool. The usage of a tool of such construction was dictated by the original composition of the author(s) of the scale, as well as the fact that 6 factors together account for more than 61% (Factor 1 – 17.64%, F2 – 11.22%, F3 – 9.10%, F4 – 8.52%, F5 – 8.20%, F6 – 6.50%) of the variance of the explained variable. The following is a summary of factor loads subjected to Varimax rotation (Table 1).

With regard to the analysis of questions included in individual subscales, the following names were chosen for the extracted components:

- Factor 1: Entertainment motivation – individuals watch TV series because it is associated with the feeling of positive emotional states;
- Factor 2: Motivation to deal with loneliness (company) – individuals watch TV series when they

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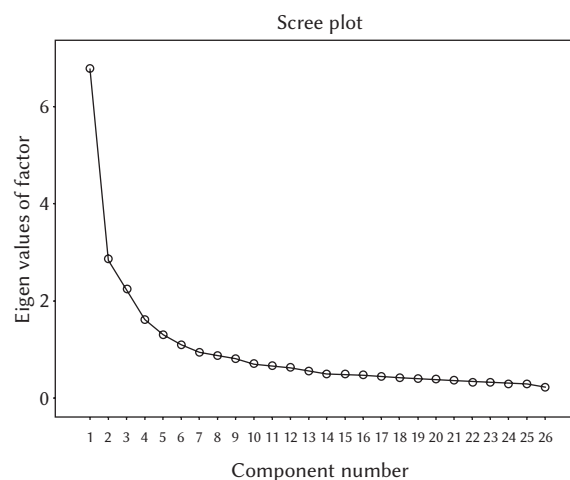


Figure 1. Scree plot.

Table 1

Factor analysis of items of the Viewing Motivation Scale

	Scale 1 Entertain- ment motivation	Scale 2 Motivation to deal with loneliness	Scale 3 Informative motivation	Scale 4 Motivation of spending free time	Scale 5 Social motivation	Scale 6 Escape motivation
Jolanta Starosta, Bernadetta Izydorczyk, Sebastian Lizińczyk						
Item 1	.57					
Item 4	.76					
Item 7	.56					
Item 9	.59					
Item 11	.76					
Item 13	.82					
Item 16	.59					
Item 18	.75					
Item 22	.59					
Item 2		.86				
Item 10		.69				
Item 19		.82				
Item 6			.64			
Item 14			.50			
Item 15			.74			
Item 24			.70			
Item 25			.59			
Item 3				.72		
Item 12				.79		
Item 20				.46		
Item 21				.77		
Item 5					.84	
Item 23					.82	
Item 8						.79
Item 17						.53
Item 26						.69

- do not want to feel lonely. Television or the series is for them a companion for them in solitary moments. Thanks to this, they do not have to think about the lack of company of other people;
- Factor 3: Informative motivation – individuals watch TV series because these provide them with information about themselves and about the world. Thanks to this, they get new information that they can apply in their everyday lives;
 - Factor 4: Motivation of spending free time (habit) – individuals watch the series because it is a form of spending their free time or preventing boredom;

- Factor 5: Social motivation – people watch TV series because thanks to that they can establish social interactions. The series allows them to spend time with family or friends, through watching them together or by becoming a topic of conversation;
 - Factor 6: Escape motivation – individuals watch TV series because they are an escape from everyday problems for them. The series allows them to divert attention from current problems and worries.
- Another element of the analysis of the research tool was to determine the reliability of the VMS – Viewing Motivation Scale. Cronbach's α coefficients

for the scales describing the motivation for binge-watching behavior in the studied population of young people ranged from .69 to .88, indicating satisfactory values of reliability indicators for individual subscales. The next step in the adaptation of the tool was to investigate the intercorrelations of the motivation questionnaire for watching serials. The calculations showed that all VMS questionnaire subscales (except two cases) are significantly positively correlated with each other. This state of affairs indicates a coherent structure of the research tool and confirms the fact that the scales are separated by similar elements that make up the construct: Motivation for binge-watching behaviors. The last stage of adaptation was the calculation of sten norms, which are presented in Table 2.

According to the guidelines, it is assumed that on the sten scale 1-4 sten indicates a low score, 5-6 indicates an average score, while 7-10 sten indicates a high score (Brzeziński, 2007). In the case of all motivations,

a person who has obtained 1-4 sten is characterized to a small extent by a given motivation; a person who has obtained 5-6 sten is characterized by a particular moderate motivation; and a person who has obtained 7-10 sten is characterized by a given motivation to a high degree. In order to complete the data image, it was decided to calculate descriptive statistics for individual subscales of the motivation scale for viewing serials. The results are summarized in Table 3.

The average score obtained by the participants on the scale of entertainment motivation ($M = 38.27$) and the motivation to spend free time ($M = 14.55$) in terms of sten scores is 7, which means that the subjects show high intensity of given motivations. In the case of the escape motivation ($M = 10.51$), the respondents achieved the result of 6 sten, while on the scale of the motivation to deal with loneliness ($M = 7.67$) the subjects achieved 5 sten, which means that they are characterized by moderate intensity of motivation. On the information motivation scale ($M = 12.58$)

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Table 2
Sten norms for the Viewing Motivation Scale

Sten	EM	MDL	IM	MSFT	SM	EM
1	0-21	0-3	0-7	0-4	2	3
2	22-26		8-9	5	3	4-5
3	27-28	4-5	10-11	6-7	4	6
4	29-31	6	12-13	8-9	5	7-8
5	32-34	7-8	14-15	10-11	6	9
6	35-36	9-10	16-18	12-13	7	10-11
7	37-39	11-12	19-20	14-15	8	12
8	40-42	13	21-22	16-17	9	13
9	43-44	14	23-24	18-19	10	14
10	45	15	25	20		15

Note. EM – Entertainment motivation, MDL – Motivation to deal with loneliness, IM – Informative motivation, MSFT – Motivation of spending free time, SM – Social motivation, EM – Escape motivation.

Table 3
Descriptive statistics of the types of motivation based on the Viewing Motivation Scale

Variable	<i>N</i>	<i>M</i>	<i>Me</i>	min	max	<i>SD</i>
EM	1004	38.27	39.00	11.00	45.00	5.29
MDL	1004	7.67	7.00	3.00	15.00	3.52
IM	1004	12.58	12.00	5.00	25.00	4.34
MSFT	1004	14.55	15.00	4.00	20.00	3.66
SM	1004	4.96	4.00	2.00	10.00	2.38
EM	1004	10.51	11.00	3.00	15.00	3.12

Note. EM – Entertainment motivation, MDL – Motivation to deal with loneliness, IM – Informative motivation, MSFT – Motivation of spending free time, SM – Social motivation, EM – Escape motivation.

and the social motivation scale ($M = 4.96$), the respondents obtained 4 sten, which is tantamount to a low intensity of motivations.

THE QUESTIONNAIRE OF EXCESSIVE BINGE-WATCHING BEHAVIORS

Subsequently, in order to measure the frequency of occurrence of risk of binge-watching behavior addiction in the study population of young adults, the author's Questionnaire of Excessive Binge-Watching Behaviors was developed. This is a tool created on the basis of the Internet addiction study method developed by Kimberly Young (1998) and its Polish adaptation of the PUI (Problematic Usage of Internet) Test by Ryszard Poprawa (2012). Due to the similarity between Internet addiction and excessive binge-watching, which is often performed via the Internet, these tools were the inspiration for creation of this method. The questionnaire consists of 30 questions to which the respondent must respond by selecting one of the answers on a 6-point scale (1 – *never*, 2 – *sporadically*, 3 – *rarely*, 4 – *sometimes*, 5 – *often*, 6 – *always*). The collected research material has been subjected to exploratory factor analysis. The adequacy index of the KMO test was measured and the Bartlett sphericity test was carried out. The obtained measure of compliance of the sample selection was 0.92, while the Bartlett's sphericity test result was as follows: $\chi^2 = 14665.33$, $df = 435$, $p < .001$. The obtained results of both indicators justified subjecting the collected material to factor analysis. In the subsequent stages, a chart for the variables included in the binge-watching behavior questionnaire and a list of values of explained variance by identified constituent factors are presented.

After the analysis of the chart and the list of the explained variance in the scope of the identified fac-

tors, the decision was made to take into account the 6-factor structure of the tool. The usage of such a construction of the tool was dictated by the author's scale assumption to identify the minimum number of factors that together will explain 60% of the variance of the explained variable (Factor 1 – 16.12%, F2 – 11.97%, F3 – 8.68%, F4 – 8.43%, F5 – 7.98%, F6 – 6.30%). The following is a summary of factor loads subjected to Varimax rotation with Kaiser standardization (Table 4).

In connection with the analysis of questions included in individual subscales, the following names were chosen for the extracted components:

- Factor 1: Emotional reactions – binge-watching is a source of positive feelings for the individual and an activity that enables coping with negative emotional states. In addition, the individual experiences psychological discomfort (e.g., anger or despondency) at the moment of limited access to watching series. For example: How often do you feel sad or irritated when you can't watch the TV series? How often does binge-watching TV series help you cope with negative emotions?
- Factor 2: Lies – the individuals hide how much time they spend binge-watching, because they want to keep a positive image of themselves in the eyes of others. For example: How often do you lie about the amount of time spent on binge-watching series?
- Factor 3: Loss of control and neglect of duties – the individuals unknowingly devote an excessive amount of time to watching series and are unable to control their behavior and therefore do not spend enough time on their duties related to school and work, which is associated with negative consequences. For example: How often do you lose control over the amount of time you spend on binge-watching TV series? How often do you neglect your duties in favor of watching series?
- Factor 4: Negative health consequences – associated with excessive binge-watching, problems with sleeping as well as with regular and healthy eating. For example: How often do you neglect your sleep to binge-watch series?
- Factor 5: Preoccupation – the degree of cognitive and emotional fascination with binge-watching and series, and search for information on these topics. For example: How often do you talk about TV shows with your friends?
- Factor 6: Negative social consequences – the individuals spend more time watching TV series than they spend on caring about their social ties. For example: How often do you choose to watch series instead of meeting your partner or friends?

Another element of the analysis of the research tool was to determine the reliability of subscales of the Questionnaire of Excessive Binge-watching Behaviors. Cronbach's α coefficients for separate subscales of the tool ranged from .67 to .89, indicating

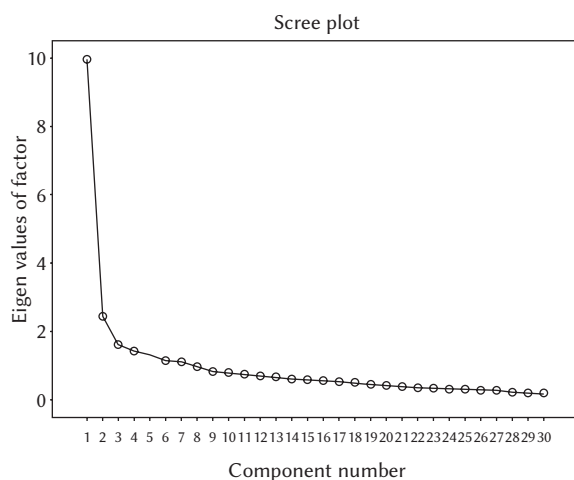


Figure 2. Scree plot.

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Table 4

Factor analysis of items of the Questionnaire of Excessive Binge-watching Behaviors

	Emotional reactions	Lies	Loss of control and neglect of duties	Negative health con- sequences	Preoccupa- tion	Negative social conse- quences
Item 9	.74					
Item 11	.57					
Item 19	.66					
Item 20	.83					
Item 21	.60					
Item 22	.58					
Item 29	.79					
Item 30	.61					
Item 8		.77				
Item 16		.61				
Item 17		.82				
Item 1			.67			
Item 2			.74			
Item 6			.71			
Item 7			.68			
Item 12			.63			
Item 15			.50			
Item 25			.47			
Item 13				.53		
Item 23				.55		
Item 24				.72		
Item 27				.55		
Item 28				.67		
Item 4					.64	
Item 10					.49	
Item 14					.49	
Item 26					.65	
Item 3						.57
Item 5						.41
Item 18						.60

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satisfactory values of reliability indicators for individual subscales.

The next step in the adaptation of the tool was to examine the inter-correlation of subscales of the Questionnaire of Excessive Binge-Watching Behaviors. The calculations showed that all subscales of

this research tool are significantly positively correlated. This state of affairs indicates a coherent structure of the research tool and confirms the fact that the separated scales study similar elements that make up the construct: Binge-watching behavior. The last stage of the tool's construction was to cre-

ate standards, the results of which can be found in the Table 5.

According to the guidelines, it is assumed that on the sten scale 1-4 sten indicates a low score, 5-6 indicates an average score, while 7-10 sten indicates a high score (Brzeziński, 2007). Therefore, on the Emotional reactions scale, people who obtained sten 1-4 have a low tendency to regulate emotions and low psychological discomfort as well as a state of depression in the situation of inability to watch series. People who have 5-6 sten on this scale are characterized by moderate tendencies to use binge-watching to improve mood. On the other hand, people who have gained 7-10 sten are characterized by a high tendency to use binge-watching to regulate negative emotions and feel great discomfort and dejection whenever they cannot watch series. An analogous division exists on the other scales.

The next stage of the tool's construction was the calculation of descriptive statistics for the extracted subscale tools (Table 6).

The subjects achieved a sten 5 on a scale of preoccupation ($M = 13.49$), which indicates a moderate intensity of this trait. In the case of Emotional reactions ($M = 19.96$), Lies ($M = 5.79$), Loss of control and care of duties ($M = 22.04$), Negative health consequences ($M = 11.68$), the average result of the subjects is 4 sten, which means that the subjects are characterized by a low intensity of these factors. A similar situation takes place with Negative social consequences ($M = 5.94$), where the average achieved result by the subjects is 3 sten. Due to the fact that the variables did not meet the conditions of normal distribution, non-parametric methods of statistical analysis were used.

STRENGTH OF THE CORRELATION BETWEEN MOTIVATION FOR BINGE-WATCHING BEHAVIOR AND ITS INTENSITY

Between the general result of the Questionnaire of Excessive Binge-Watching Behaviors (the higher

Table 5

Sten norms for the Questionnaire of Excessive Binge-watching Behaviors

Sten	ER	L	LCND	NHC	P	NSC
1	0-9	0-3	0-13	0-6	0-6	0-6
2	10-13		14-16	7-8	7-8	7-8
3	14-17	4-5	17-20	9-10	9-10	9-10
4	18-22	6	21-23	11-12	11-12	11-12
5	23-26	7	24-27	13-14	13-14	13-14
6	27-30	8-9	28-30	15-16	15-16	15-16
7	31-35	10	31-34	17-18	17-18	17-18
8	36-39	12-11	35-37	19-20	19-20	19-20
9	40-44	13	38-39	21-22	21-22	21-22
10	≥ 45	≥ 14	≥ 40	≥ 23	≥ 23	≥ 23

Note. ER – Emotional reactions, L – Lies, LCND – Loss of control and neglect of duties, NHC – Negative health consequences, P – Preoccupation, NSC – Negative social consequences.

Table 6

Descriptive statistics of the Questionnaire of Excessive Binge-watching Behaviors

Variable	N	M	Me	min	max	SD
ER	1004	19.96	18.00	8.00	48.00	8.76
L	1004	5.79	5.00	3.00	18.00	2.78
LCND	1004	22.04	22.00	7.00	42.00	7.06
NHC	1004	11.68	11.00	5.00	30.00	4.04
P	1004	13.59	13.00	5.00	24.00	3.80
NSC	1004	5.94	5.00	3.00	18.00	2.80

Note. ER – Emotional reactions, L – Lies, LCND – Loss of control and neglect of duties, NHC – Negative health consequences, P – Preoccupation, NSC – Negative social consequences.

the result, the higher the probability of addiction), which is a measure of the intensity of binge-watching behavior and the majority of motivations – entertainment ($\rho = .35$), coping with loneliness ($\rho = .42$), information ($\rho = .38$), spending free time ($\rho = .36$) and escape ($\rho = .55$) – there is moderate positive correlation. This means that the more people practice binge-watching in a problematic way, the more often they are characterized by manifesting the mentioned motivations. It is worth noting that people characterized by an escape motivation, and thus wanting to escape from everyday problems, are more likely to binge-watch. There is no correlation between the intensity of binge-watching behavior and social motivation (Table 7, 8).

There is a high, positive correlation ($\rho = .62$) between emotional regulation and escape motivation. It seems understandable that people who binge-watch are driven by the desire to escape from the problems of everyday life. Binge-watching is an activity that regulates their negative emotions. Moderate and pos-

itive correlations exist between emotional regulation and entertainment motivation ($\rho = .37$), dealing with loneliness ($\rho = .47$), informative motivation ($\rho = .38$) and spending free time ($\rho = .36$). The lack of correlation between a given variable and social motivation may indicate that people motivated to watch serials in order to socialize with others do not use binge-watching as a regulator of negative emotional states. There are low positive correlations between the variable Lies and the motivation to deal with loneliness ($\rho = .24$), information motivation ($\rho = .20$), spending free time ($\rho = .11$), social ($\rho = .07$), and escape ($\rho = .19$). There is no correlation between the variable and the entertainment motivation. The highest positive correlation with the variable Loss of control and neglect of duties occurs within the escape motivation ($\rho = .42$); the person spends many hours watching TV series to forget about their problems, which makes it easy to lose control over the number of watched episodes, and that may result in non-fulfillment of duties, whether school or work related. There is

Table 7

Spearman's ρ correlation between the intensity of binge-watching behavior and individual motivations for watching series

	Entertainment motivation	Motivation to deal with loneliness	Informative motivation	Motivation of spending free time	Social motivation	Escape motivation
Overall score in the excessive binge-watching behavior questionnaire	.35*	.42*	.38*	.36*	.03	.55*

Note. * $p < .05$

Table 8

Spearman's ρ correlation between motivations for watching series and risk factors of addiction

	Entertainment motivation	Motivation to deal with loneliness	Informative motivation	Motivation of spending free time	Social motivation	Escape motivation
Emotional reactions	.37*	.47*	.40*	.36*	-.00	.62*
Lies	-.02	.24*	.20*	.11*	.07*	.19*
Loss of control and neglect of duties	.21*	.29*	.18*	.27*	-.00	.42*
Negative health consequences	.18*	.21*	.18*	.18*	.04	.26*
Preoccupation	.47*	.23*	.47*	.31*	.14*	.34*
Negative social consequences	.15*	.24*	.25*	.25*	.04	.34*

Note. * $p < .05$

Table 9

Summary of Mann-Whitney U-test results for variables of binge-watch motivation and addiction factors for women and men

Variables	Rank sum Women	Rank sum Men	<i>U</i>	<i>z</i>	<i>p</i>
EM	439155.00	65355.00	54030.00	3.07	.002
MDL	435550.50	68959.50	57634.50	1.98	.049
IM	429664.00	74846.00	63521.00	0.16	.872
MSFT	431869.50	72640.50	61315.50	0.84	.402
SM	441546.50	62963.50	51638.50	3.83	< .001
EM	434191.50	70318.50	58993.50	1.55	.121
ER	436929.50	67580.50	56255.50	2.38	.017
L	434245.00	70265.00	58940.00	1.58	.114
LCND	438129.00	66381.00	55056.00	2.75	.006
NHC	423218.00	81292.00	58133.00	-1.81	.069
P	433341.00	71169.00	59844.00	1.29	.197
NSC	427846.00	76663.50	62761.50	-0.39	.691

Note. EM – Entertainment motivation, MDL – Motivation to deal with loneliness, IM – Informative motivation, MSFT – Motivation of spending free time, SM – Social motivation, EM – Escape motivation ER – Emotional reactions, L – Lies, LCND – Loss of control and neglect of duties, NHC – Negative health consequences, P – Preoccupation, NSC – Negative social consequences.

also a low positive correlation of the variable Loss of control and neglect of duties with the entertainment motivation ($\rho = .21$), dealing with loneliness ($\rho = .29$), informative ($\rho = .18$) and in spending free time ($\rho = .27$). There is no significant relationship between the variable and social motivation. There are low, positive correlations between the variable Negative health consequences and entertainment motivation ($\rho = .18$), coping with loneliness ($\rho = .21$), informative ($\rho = .18$), spending free time ($\rho = .18$) and escape motivation ($\rho = .26$). Between the variable Preoccupation and entertainment motivation ($\rho = .47$) and informative ($\rho = .47$) there are moderate, positive correlations, while low correlations occur in the case of motivation to deal with loneliness ($\rho = 0.23$), spending free time ($\rho = .31$), social ($\rho = .14$) and escape ($\rho = .34$). Between Negative social effects and entertainment motivation ($\rho = .15$), coping with loneliness ($\rho = .24$), informative ($\rho = .25$), spending free time ($\rho = .25$), social ($\rho = .14$) and escape ($\rho = .33$) there are low, positive correlations.

Based on the Table 9, it can be concluded that gender differences occur in the following variables: entertainment motivation ($U = 54030.00$, $z = 3.07$, $p = .002$) motivation for coping with loneliness ($U = 57634.50$, $z = 1.97$, $p = .049$), social motivation ($U = 51638.50$, $z = 3.83$, $p < .001$), emotional reactions ($U = 56255.50$, $z = 2.38$, $p = .017$) and loss of control and negligence of duties ($U = 55056.00$, $z = 2.75$, $p = .006$). Women show a higher intensity of these factors.

DISCUSSION

The scale of motivation to watch series in Polish adaptation is a tool consisting of 26 questions, which form the following 6 scales: entertainment motivation, motivation to deal with loneliness, information motivation, motivation to spend free time, social motivation and escape motivation. The tool showed satisfactory reliability ranging from .69 to .88. The level of intercorrelation of scales indicates a coherent tool construction. The Questionnaire of Excessive Binge-Watching Behaviors is tool which consists of 30 questions and the following 6 scales: Emotional reactions, Lies, Loss of control and neglect of duties, Negative health consequences, Preoccupation and Negative social consequences. The tool also showed a satisfactory level of reliability, ranging from .67 to .89. All scales correlate positively with each other. The study group achieved the highest scores (7 sten) on the scale of entertainment motivation and motivation to spend free time, which proves that they treat binge-watching as an activity to provide positive impressions and counteract boredom. This is confirmed by the results obtained by Pittman and Sheehan (2015) and Pena (2015), in which binge-watching sessions were seen as a “way to kill time”. The subjects obtained average results (6 sten) in escape motivation and coping with loneliness, which proves moderate tendencies to characterize given motivations. The academic literature sources confirm that binge-watching, as a highly immersive occupation, may favor the establishment

of parasocial relationships with fictional characters (Conlin, 2015; Wheeler, 2015). In addition, research shows that binge-watching correlates with loneliness and emotional disorders. It is possible that individuals with such characteristics more often display motivation to deal with loneliness or escape from everyday problems (Sung, Kang, & Lee, 2015; Pena, 2015). The respondents were characterized by low information and social motivation, which may indicate that binge-watching in their understanding is not a source of information about the world, but only entertainment. It is worth noting that research shows that binge-watching is practiced mainly in loneliness, which may justify a small social motivation (Wagner, 2016).

In addition, the comparison of the results of women and men showed that women are characterized by higher entertainment motivation, coping with loneliness and social motivation to watch serials. It is possible that females treat the viewing of the series as a pleasant activity, which provides them with entertainment and positive emotions. It may also be related to the existence of a social belief that women watch TV shows more often than men. It is possible that individuals of male gender prefer another type of activity for entertainment purposes. A higher level of motivation to deal with loneliness and social motivation may be explained by the greater tendency of women to undertake social interactions. Research has shown that both watching television and using the Internet in the case of women is motivated by social interactions (Augustynek, 2010; Perse & Ferguson, 1997). Women often seem to seek emotional support in the network and establish social contacts or share their experiences. By watching TV series, they are also more often interested in the aspect of relationships with other people, such as watching shows together or sharing their experiences with friends. It may be similar in a binge-watch situation. The mentioned interpretations of gender differences in this study should be treated with great caution, due to the significant difference in the number of women ($n = 850$) in relation to men ($n = 154$). Undoubtedly, additional research would have to be carried out to become sure of the results obtained.

The studied group shows a low risk of binge-watching addiction. The results obtained in particular subscales assume moderate values in the case of the preoccupation scale, which may be related to the growing popularity of binge-watching among young adults and the development of the serial market, which offers the viewer a wide selection of well-made productions that one should know, as exemplified by *Game of Thrones* or *House of Cards*. In addition, binge-watching is by definition a very absorbing phenomenon, conducive to the phenomenon of transposition, or deep immersion in a fictitious world, associated with the viewer's large involvement during and before or after the binge-watching

session (Conlin, 2015). In the case of other scales – Emotional reactions, Lies, Loss of control and neglect of duties, Negative health and social consequences – the study group obtained low results, which means that the majority of respondents do not show negative consequences of binge-watching. However, it should be mentioned that although the vast majority of the group shows low (70%) or moderate (26%) risk of binge-watching addiction, 4% of the study group is characterized by high scores indicating being at risk of addiction. Extreme cases of binge-watching behavior are rare, as confirmed by the Trouleau study (2016), which distinguished the so-called “hyperbinge” group, characterized by watching an extreme number of episodes of a series at one sitting – 7-14 or more episodes per day.

Differences between genders in the area of addiction risk factors occur in the variables Emotional reactions and Loss of control and neglect of duties. Higher results on these scales were achieved by women, which indicates a greater tendency to use binge-watching as a mood regulator and greater loss of control over the number of episodes watched, which may result in neglecting duties. However, it should be remembered that due to group size inequalities, the results have to be treated with caution.

The obtained results indicate that there are positive moderate correlations between the level of intensity of binge-watching behavior and manifestations of motivation to watch the series. As the intensity of binge-watching behavior increases, the escape motivation ($\rho = .55$) and the motivation to deal with loneliness ($\rho = .42$) increase, which means that those with higher risk for binge-watch addiction are more often motivated to watch serials to escape from everyday problems and try to reduce their sense of loneliness by establishing parasocial relationships with fictional characters that can be as strong as normal interpersonal relationships, as has been confirmed by research (Wheeler, 2015). Interestingly, people with emotional disorders, who are lonely and have self-control problems are more likely to exhibit excessive binge-watching (Sung, Kang, & Lee, 2015; Pena, 2015). A low positive correlation occurs between the intensity of binge-watching behavior and entertainment motivation ($\rho = .35$), information motivation ($\rho = .38$) and motivation to spend free time ($\rho = .36$). Lack of correlation with social motivation proves that binge-watching is an activity usually practiced in loneliness, not for socialization or for establishing social bonds (Wagner, 2016). It is even emphasized that the individual's social life suffers as a result of excessive binge-watching behavior (Feeney, 2014).

Entertainment motivation positively correlates on a moderate level ($\rho = .47$) with preoccupation, which means that individuals can be overly fascinated by watching serials, which makes them unable to wait for the next binge-watching session to entertain

themselves. Such people can search for information about series and exchange it with friends in order to choose a series that can provide them with positive emotions. A similar situation takes place in the case of information motivation, which also positively correlates on a moderate level with preoccupation ($\rho = .47$). However, in this case, instead of getting pleasure, the individual is preoccupied with watching serials to get information about the world, others or themselves. The highest positive correlations occur in the case of escape motivation and emotional regulation ($\rho = .62$), which means that people who want to escape from their problems and from negative emotions tend to regulate their emotional state through binge-watching behavior. In the situation of inability to watch the series they may experience symptoms of distress or depression. People who show a high degree of escape motivation are also characterized by the highest probability of losing control over the number of episodes viewed, as a result of which they may neglect their duties ($\rho = .42$) and social relations ($\rho = .34$), and they may bear negative health consequences in the highest degree ($\rho = .26$). Research confirms that excessive binge-watching behavior is often associated with loss of control and the procrastination process, which results in negative consequences as a result of worse outcomes in learning and performance at work (Chamblis et al., 2017). Excessive binge-watching also has negative health consequences in the form of sleeping problems and poor eating habits (Ruddick, 2017; Oberschmidt, 2017). It is similar in the case of motivation to deal with loneliness, which moderately correlates with Emotional reactions ($\rho = .47$) and in a low degree with other scales. Interestingly, the correlation with the Lies scale assumes the highest values among all motivations, which may mean that people who exhibit this motivation try to hide the actual amount of time spent watching series. In the case of social motivation, there is no correlation with the majority of risk factors of binge-watching addiction, the only existing correlations being very low positive correlations with the Lies and Preoccupation scales. It can be concluded that people focused on social interactions regulate their emotions otherwise and do not experience negative social and health effects of excessive binge-watching behavior.

STUDY LIMITATIONS

The first limitation of the research is related to the unequal size of groups distinguished by gender, as well as the criterion of the intensity of watching serials. 854 women and 150 men participated in the study. The quantitative difference between the sexes is so large that it may affect the results of the research; therefore any interpretations should be treated with

caution. Such a large preponderance of women may result from the following reasons. First of all, women are more likely to participate in surveys and to complete surveys than men. Secondly, watching serials may be a more popular activity among females. Men may prefer a different way of spending time, e.g. by playing computer games. Thirdly, the survey was posted on Facebook groups of departments such as psychology, pedagogy, philology, and artistic studies. The mentioned fields of study are characterized by a majority of women among students. Despite the fact that the questionnaire was distributed to polytechnic, IT and public groups, in order to reach men, this did not meet with the expected response in the form of completed surveys. Undoubtedly, in order to better understand the relationships between gender and binge-watching, additional research would have to be carried out. Further research limitations are connected with conducting research via online platforms and through the use of targeted selection during the creation of a research group. Another limitation is the restriction of research only to the age group of young adults. Knowing that the phenomenon of binge-watching also affects older and younger people, data should be collected from these age groups as well. Research limitations are also associated with the lack of consideration, and thus the exclusion of people with disabilities, for example with personality disorders or psychoses.

CONCLUSIONS

Research has shown that the Polish adaptation of the Viewing Motivation Scale by Alan M. Rubin and the author's tool, the Questionnaire of Excessive Binge-Watching Behaviors by Jolanta Starosta and collaborators, are tools that meet psychometric standards that may be useful in learning about the phenomenon of binge-watching. Individuals display different motivations for watching serials depending on their own needs. However, in the case of people with the highest intensity of binge-watching behavior, the most common motivation is escape motivation. In terms of the motivation to watch series, women more often than men display entertainment motivation, social motivation and coping with loneliness motivation. The research group was characterized by a low level of addiction risk; however, it should be remembered that just a small percentage of the group, 4%, was in the high risk group. The highest result of the unit was in the scale of Preoccupation. There are moderate and low correlations between individual motivations for watching serials and risk factors of binge-watch addiction. The highest results of the coefficient of correlation occurred between escape motivation and individual risk factors of addiction, such as Loss of control and neglect of duties, Emotional reactions, Negative

health consequences and Negative social consequences. The lowest correlations occurred between social motivation and risk factors of addiction. Undoubtedly, further research is needed on the phenomenon.

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